CASCADE GENERAL
PORTLAND SHIPYARD

September 6, 2016

Attention: Harbor comments
U.S, Environmental Protection Agency, Region 10
805 SW Broadway, Suite 500
Portland, Oregon 97205

EPA Region 10:

The following comments on EPA's Proposed Plan for Portland Harbor are submitted by Cascade General, Inc.

Improvements since the Remedial Investigation data collection

EPA developed the proposed plan to address site risks based largely on sediment and fish tissue data collected between 2002 and 2006. However, recent sediment and fish tissue data collected from the Site indicate that conditions have improved significantly since collection of the original dataset. We understand that EPA was provided this additional data, but chose not to consider its implications in developing and selecting a preferred remedy even though the data is of sufficient quality.

Collectively, the recent data demonstrates that the concentrations of contaminants in surface sediments have decreased significantly, and the concentrations of PCBs in fish tissue have declined since the original data collection. These findings are not irrelevant when making decisions that are supposed to be based on science and should be considered in the selection of a remedy to reduce environmental risk.

CSO improvements

Neither the Feasibility Study nor the Proposed Plan provide any analysis or even mention of the effects on harbor conditions resulting from the phased completion of the City of Portland's combined sewer overflow control project, known as the Big Pipe Project. It is well established that CSOs are a significant source of multiple pollutants at sediment sites, including PCBs, dioxins/furans, PAHs, and heavy metals. EPA identified CSOs as a source of contamination at the Portland Harbor site during the remedial investigation, which was addressed in great detail in the Remedial Investigation report.

The Big Pipe Project is particularly relevant to both the characterization and remedy selection at Portland Harbor for two critical reasons. First, completion of the CSO controls removed the last significant source of contamination discharging to the Site at multiple locations. The city reports that up to six *billion* gallons per year of contaminated CSO discharges were eliminated by the

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Big Pipe Project. These discharges were spread throughout the harbor by 15 individual CSO outfalls. In addition, there are several CSO outfalls located upstream of the Site and in the heavily industrialized Columbia Slough, which would impact the Site during reverse flows associated with flood tides.

Second, control of the CSO discharges occurred in phases directly corresponding with the timing of the remedial investigation. The Columbia Slough section of the Big Pipe Project was completed in 2000. The west side section of the project was completed in 2005, and the east side section of the project was completed in 2011.

It is certainly reasonable to expect that controlling such a significant source of harbor-wide contamination will result in notable improvements in sediment and water quality. Otherwise, there was no need to conduct the Big Pipe Project in the first place, nor would there be any purpose for the ongoing upland source control work led by the DEQ. Given the scale of the past CSO discharges, and the size of Portland Harbor, it is also reasonable to expect that the environmental improvements would take years if not a decade or more to fully mature, and the improvements were undoubtedly occurring during the period of the remedial investigation. Indeed, the more recent sediment and fish tissue testing results described above bear out that conditions are steadily improving.

As it stands now, EPA is treating the results of the Big Pipe Project and the remedy selection as two completely unrelated events, which is not the case. Accordingly, EPA's proposed plan should be revised to provide a thorough analysis of the anticipated long-term effects of controlling the city's CSO discharges on meeting the site wide RAOs. To the extent the analysis supports implementing less aggressive remedial measures than currently proposed, such as monitored natural recovery applied to a wider area, then the plan should be modified accordingly.

The citizens of Portland invested nearly $1.5 billion and over 10 years in the Big Pipe Project specifically to improve the quality of the lower Willamette River. The results of such a significant investment should be thoughtfully considered and incorporated into the final remedy so the public is not paying twice for the same cleanup.

Riverbank contamination

Figure 19e of the Proposed Plan delineates shoreline areas around the western and northern perimeters of Swan Island as having known contamination of the riverbanks. We are not aware of any sampling events producing data showing that the riverbanks are contaminated in these locations. In fact, much of the delineated shoreline consists of sheet-pile bulkheads that are obviously not available for sampling or remedial action.

Future Maintenance Dredging in Swan Island Lagoon

The Proposed Plan specifies dredging as the remedial technology within the Federal Navigation Channel and in Future Maintenance Dredging (FMD) regions. The term FMD regions applies to

areas near and around docks where maintenance dredging below existing elevations is likely to occur in the future to accommodate uses at adjacent facilities.

Figure 19e provides the technology assignments for Alternative I showing a large swath of dredging in the lagoon adjacent to the western and northern sides of Swan Island. For the reasons discussed below, EPA erred in designating much of the lagoon an FMD region, and should adopt the Swan Island SDU Optimized Remedial Alternative submitted as a comment to the Proposed Plan under separate cover.

The FMD region identified by EPA is concentrated around the vessel repair and layup berths on the northern side of Swan Island, and the drydocks and small boat basins on the western side of Swan Island. The repair berths include berths 301 to 305, and consist of improved wharfs and a pier served by cranes and utilities such as water, sewer, shore power, fire protection, air, steam, and gasses. The lay berths include berths 306 and 307, and consist of mooring piers with limited utilities and no crane service. The drydock basin is equipped with two floating drydocks operating within manmade prisms. The small boat basin is equipped with floating boat docks, and is used for mooring work boats and spill response equipment.

These facilities were mostly developed in the 1940s and 1950s. During that era there was no shipyard infrastructure on the southern side of Swan Island. In 1979 the Willamette side of the shipyard was developed to accommodate large vessels by taking advantage of the naturally deeper water. This practice exists to this day, and the lagoon berths are used to accommodate smaller vessels typically requiring less than 25 feet of draft. The water depths adjacent to the lagoon berths are currently adequate and have remained relatively stable for at least the past 30 years. Hydrographic surveys of the lagoon berths are performed regularly, and there has been no measurable shoaling observed since the 1980s.

The water depths in the small boat basin are currently more than adequate, and there will be no need to maintenance dredge this area for the foreseeable future. Likewise, the two dredge prisms in the drydock basin have been stable for at least 20 years, and there is no need for maintenance in this area for the foreseeable future.

It is important to note that the approach to the lagoon is at the same elevation as most of the lagoon, especially in the area adjacent to the shipyard berths. In order to deepen the berths for maritime use, it would be necessary to create a channel through the lagoon approach to connect with the navigation channel. This would not be feasible for any commercial use at the shipyard due to the timeframe necessary to acquire a dredge permit and the cost of performing the work. In short, there are superior options already available, and we see no scenario in which we would invest the time and capital to excavate an approach channel and deepen the lagoon berths.

It is also important to note that EPA's analysis and cost estimate did not consider the requirement to stabilize the shoreline and infrastructure to accomplish dredging much beyond a foot or two of the current elevations. Previous engineering studies of the wharf structure (berths 302-305) indicate there is only a marginal factor of safety against a deep-seated circular failure beneath the entire structure, and that the risk of a failure would increase by lowering the dredge plane. In addition, the exposed shorelines around the facility adjacent to FMD regions are steep and susceptible to failure. Accordingly, any significant dredging operation near these areas will

incur substantial costs to buttress and protect infrastructure and banks that are not accounted for in the Proposed Plan.

Risk reduction benefit

The summary of the Proposed Plan (page 58) provides a prediction of the human health benefits anticipated from the full implementation of Alternative I. The prediction concludes that the number of fish meals that can be consumed following the remedy and a seven year waiting period, will increase by 4.5 fish meals per month for most consumers, and by 0.4 fish meals per month for breastfeeding consumers. However, the Proposed Plan does not provide any information for comparing the safe number of fish meals associated with background risk. The remedial investigation measured PCBs in fish tissue upstream of Portland Harbor, which represents a background risk that would be associated with a comparative fish meal advisory. In addition, the Oregon Health Authority has a resident fish consumption advisory due to mercury contamination that will not be addressed by any of the alternatives. This advisory allows four fish meals per month for most consumers and one fish meal per month for vulnerable consumers, effectively making RAO2 unachievable. Accordingly, it is important to provide context for considering the expected benefit of the alternative when evaluated in terms of the number of advisory fish meals following the cleanup, relative to advisory fish meals due to background risk, so that the public can understand the actual anticipated benefits of EPA's action.

Respectfully,

T. Alan Sprott
Vice President